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STUDIES OF NEOTROPICAL COMPOSITAE–VII. *SCHISTOCARPHA EUPATORIOIDES* (MILLERIEAE) IN THE DOMINICAN REPUBLIC, A NEW GENERIC RECORD FOR THE WEST INDIES

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ABSTRACT

The genus *Schistocarpha* is reported as a new record for the West Indies based on a single collection of *S. eupatorioides* from the Dominican Republic. The species occurs natively in Mexico, Central America, and Andean South America.

KEY WORDS: Asteraceae, Compositae, Dominican Republic, Galinsoginae, Hispaniola, Millerieae, *Schistocarpha,* West Indies.

Schistocarpha Less. (Compositae: Millerieae) was revised by Robinson (1979), who recognized 16 Neotropical species. The genus has been treated traditionally in tribe Senecioneae (e.g., Bentham & Hooker 1873; D'Arcy 1975) because of its yellow disk corollas with an elongate tube and capillary pappus bristles. Without comment, Rydberg (1927) removed each *Neurolaena* and *Schistocarpha* from Senecioneae, placing them in the newly described tribe Neurolaeneae. By concave anther appendages, paleate clinanthia, and helianthoid corolla trichomes, Robinson and Brettell (1973) treated *Neurolaena* and *Schistocarpha* in Heliantheae, where Robinson (1979) correctly aligned *Schistocarpha* with subtribe Galinsoginae. More recently, Panero (2007) treated Galinsoginae within tribe Millerieae.

The revision of Robinson was used as the basis for further study by Turner (1986), who recognized ten species. More recently, Strother (1999) estimated as four or five the number of species in *Schistocarpha.* Examples of newer synonymy in Turner (1986) include his treatment of *S. longiligula* Rydb. as including four names recognized by Robinson, and Strother (1999) furthered this synonymy by treating *S. longiligula* Rydb. in synonymy of the generitype *S. bicolor* Less. In each Turner (1986), Strother (1999), and Pruski (2010), *S. eupatorioides* is circumscribed as the sole species of *Schistocarpha* with pluriseriate pistillate florets having no or at best a much reduced corolla limb. The genus *Schistocarpha* was not reported in the West Indies by Liogier (1962, 1996, 1997), Adams (1972), Robinson (1979, 2006), Turner (1986), Howard (1989), or Strother (1999). As treated here, *Schistocarpha* thus represents a new generic record for the West Indies. The genus ranges from Gulf Coastal northern Mexico through the Isthmus of Tehuantepec, south through the Andes into northern Argentina, and now is known from a single locality in Hispaniola. The generic range mirrors that of *S. eupatorioides*, the most common species in the genus.

We collected *S. eupatorioides* on the north side of the Sierra de Bahoruco in the Dominican Republic, the same locality as *Ortiz & Pruski 354* (JBSD, MO) cited by Ortiz (2012) as *Disciphania domingensis* Urb. (Menispermaceae). The plant from the Dominican Republic keys consistently to *S. eupatorioides* in each Robinson (1979, 2006), Turner (1986), and Strother (1999). The purpose of this note is to document *S. eupatorioides* as a genus and species new to the West Indies and to provide generic and specific descriptions of it that may be inserted into the Compositae treatment in the Flora of Hispaniola by Liogier (1996). The present treatment is adapted from those of Fenzl (1849), Robinson (1979, 2006), Turner (1986), Strother (1999), and Pruski (2010).

MISSOURI
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0 1 2 3 4 5 6 7 8 9 10
cm
CARIBBEAN
genus new to West Indies
ASTERACEAE
Schistocarpha eupatorioides (Forsk.) Kuntze
det. John Pruski, 2009
Dominican Republic: Barahona Province
Sierra de Bahoruco (northern side).
Entrada of Polo along DR Carretera
Ramal 533, ca. 20 km south (uphill) of
Cabral (same locality as Ortiz &
Pruski 353, 354).
18°06'42"N 071°16'18"W 822 m
Erect herb to 2 m tall in full sun;
stems with solid pith; pistillate
florets in several series, limb very
short; disk florets bisexual, fewer in
number than pistillate florets; all
corollas yellow.
27 June 2006
John Pruski & Rosa Ortiz 4060
MISSOURI BOTANICAL GARDEN HERBARIUM (MO)

Figure 1. Voucher of *Schistocarpha eupatorioides* from the Dominican Republic (*Pruski & Ortiz 4060*, MO).

SCHISTOCARPHA Less., Linnaea 6: 409. 1831. **TYPE**: *Schistocarpha bicolor* Less.
Neilreichia Fenzl, *Zycona* Kuntze

Coarse perennial herbs to shrubs to 5 m tall; stems ascending to scandent, few-branched, subterete, striate, leafy, internodes often elongate; herbage infrequently stipitate-glandular. **Leaves** opposite or distal ones infrequently alternate, subsessile to long-petiolate; blade lanceolate-deltate to ovate, chartaceous, thinly 3-nerved from near base, surfaces typically without glandular dots, adaxial surface scabrid or sometimes glabrous, abaxial surface glabrous to velutinous or pilosulose, base cuneate to truncate, but usually with acumen decurrent onto petiole, sometimes amplexicaul, margins serrulate to serrate, apex acute to attenuate; petiole typically somewhat winged from decurrent blade. **Capitulescence** terminal or axillary from the distal nodes, pluricapitulate, corymbiform-paniculate; peduncles slender, typically pubescent, sometimes stipitate-glandular. **Capitula** 6–13 mm long, 13–145-flowered, radiate (usually heterochromous) or indistinctly subradiate, sometimes disciform; involucre cylindrical-campanulate to campanulate; phyllaries 16–40, imbricate, graduated, 3–5-seriate, usually appressed, scarious-chartaceous, usually (3–)7–11-striate, striations drying dark; clinanthium (receptacle or phoranthium) convex to conical, paleate; paleae shorter than disk florets, lanceolate to elliptic-lanceolate, scarious-stramineous, weakly navicular, striate, usually lacerate or trifid. **Ray florets** (0–)8–25(–60), pistillate, 1(–3)-seriate; corolla typically white, tube about as long as pappus, limb ovate to oblong, short- to well-exserted, nerves equally-thin, lacking larger support veins, apex 3-denticulate. **Marginal florets** (when capitula obscurely subradiate or disciform), 40–70, 2–4-seriate, pistillate; corolla tubular-filiform and typically obscurely radiate with no or a minute flattened limb. **Disk florets** 5–75, fewer to more than pistillate florets, bisexual; corolla funnelform, shortly 5-lobed, yellowish, often pubescent, tube slender, generally about as long as limb, lobes triangular, erect, shorter than throat; anthers cream-colored or greenish to brownish, thecae ecaudate, bases short-sagittate, apical appendage ovate-concave, eglandular; style base dilated, partly immersed in nectary, branches short, partly exserted, with a 2-banded stigmatic surface, apically short-acute, papillose. **Cypselae** isomorphic, prismatic-obovoid to terete, black, glabrous, carpopodium asymmetric, stramineous; pappus of 25–35 elongate subequal white somewhat fragile capillary bristles in a single series. $x = 8$. About 10–12 spp. Mexico to South America, and now a single species in the West Indies.

SCHISTOCARPHA EUPATORIOIDES (Fenzl) Kuntze, *Revis. Gen. Pl.* 3(3): 170. 1898. *Neilreichia eupatorioides* Fenzl, *Nov. Gen. Sp. Pl.* 6, t. 1. 1849. **TYPE: PERU**. 'Subandina prope Cuchero' [**Huánuco**. Near Cuchero, ca. 4–8 km SW of the boca del Río Chinchao at the Río Huallaga, 9° 30–31' S, 75° 56–59' W, ca. 800–1000 m, 1829–1830], *Poeppig Addendis 74* (holotype: W). The Ruiz & Pavón and Poeppig locality of 'Cuchero' was abandoned and Poeppig said some decayed huts are the only remains of it. Ruiz (1940) said Cuchero [in July 1780] is situated "in a small plain on a hill surrounded on all sides by other higher and rough hills" and Stephens and Traylor (1983) gave it as along the Río Chinchao. Ruiz (1940) gave Cuchero as 26 leagues NE from Huánuco (in the direction of Chinchao, league 18) and from Cuchero only "two short leagues downhill to the Huánuco river" [i.e., Río Huallaga] near the mouth of the Río Chinchao. The distance on modern maps from Huánuco to the mouth of the Río Chinchao at the Río Huallaga is about 55 kms, placing Cuchero near modern day San Juan and about 4–8 km SW of the boca del Río Chinchao at the Río Huallaga. Figures 1–2.
Schistocarpha hoffmannii Kuntze, ?*Schistocarpha margaritensis* Cuatrec., *Schistocarpha oppositifolia* (Kuntze) Rydb., *Zycona oppositifolia* Kuntze

Perennial herbs to subshrub 0.5–3 m tall; stems pubescent to less commonly glabrate. **Leaves** petiolate; blade 4–20 × (0.5–)2.5–13(–17) cm, ovate or distal ones lanceolate, surfaces rarely finely gland-dotted, adaxial surface strigillose to sometimes glabrous, abaxial surface pilosulose to strigose, much less commonly glabrous, base obtuse to subcordate or truncate, then abruptly attenuate

Figure 2. *Schistocarpha eupatorioides*. Close-up of capitula at anthesis showing the 3–4-seriate tubular-filiform pistillate florets with corolla limbs reduced or absent. The scale bar at top has increments of 1 cm. (*Pruski & Ortiz 4060*, MO).

onto petiole, basal acumen to 3 cm long, apex acuminate to attenuate; petiole 0.8–7 cm long. **Capitulescenc**e usually 2–15 × 2–15 cm, each branchlet 20–50+-capitulate with 1–3 clusters, clusters usually moderately dense-spherical and cymose, infrequently nearly flat-topped and corymbiform; peduncles 2–10(–30) mm long, pubescent to pilose, occasionally also stipitate-glandular, often 1-bracteolate, bracteole 2–4 mm long, linear-lanceolate, typically basal. **Capitula** 7–9 mm tall, 35–88-flowered, indistinctly subradiate to disciform; involucre 4–7 mm diam.; phyllaries 25–30, 1.5–8 mm long, elliptic-lanceolate grading to lanceolate, 3–4-seriate, glabrous or sometimes sparsely ciliate distally, apex commonly obtuse to rounded; paleae 5–6 mm long, linear-lanceolate, usually persistent, stramineous, apically lacerate, central part sometimes long-attenuate. **Marginal florets** 30–70, indistinctly subradiate or tubular-filiform (often within a single capitulum), 3–4-seriate; corolla white to yellowish, tube 4–5 mm long, laxly pilosulose, limb 0–1 mm long, when present ca. 5× shorter than tube, sometimes faintly 3-nerved; style sometimes much longer than corolla. **Disk florets** 5–18; corolla 4.5–5.5 mm long, yellowish, tube 2–3 mm long, glabrous (in Hispaniola and often in Central American populations) or sparsely setose (often in South American populations), throat ca. 2 mm

long, glabrous, lobes ca. 0.5 mm long, commonly setulose; anthers partly exserted; style branches to ca. 0.5 mm long. **Cypselae** 1–1.5 mm long; pappus bristles ca. 4.5 mm long. $2n = 16$.

Distribution and ecology. *Schistocarpha eupatorioides* is reported here as new for the West Indies from a single locality in the Dominican Republic on the island of Hispaniola. It otherwise occurs from Gulf Coastal northern México, throughout much of Central America, into Colombia and Venezuela, and thence south in the Andes through Ecuador, Peru, Bolivia, and ultimately into northern Argentina. Because Turner (1986) gives *Schistocarpha margaritensis* Cuatrec. as a possible hybrid, it is listed here only as a possible synonym. *Schistocarpha eupatorioides* flowers throughout most of the year (less so in April and May) and occurs mostly in disturbed, moist, or open areas below 1800 meters elevation. In the Dominican Republic, *S. eupatorioides* was seen at the single mid-elevational sunny roadside locality cited below. The Hispaniolan material has glabrous disk corolla tubes as do most populations from Mexico and Central America. However, South American plants may exhibit similar morphology, thus the possible source of plants introduced into Hispaniola cannot be identified on the basis of this feature.

Voucher. **DOMINICAN REPUBLIC. Barahona.** Sierra de Bahoruco (northern side), entrada of Polo along DR Carretera Ramal 533, ca. 20 km S (uphill) of Cabral, 18°06'42"N, 71°16'18"W, 822 m, 27 Jun 2006, *Pruski & Ortiz 4060* (JBSD, MO, NY, S, US).

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